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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,559	03/03/2004	Shoichiro Yasunami	Q80212	3278

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EXAMINER

LE, HOA VAN

ART UNIT PAPER NUMBER

1752

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/791,559	<b>Applicant(s)</b> YASUNAMI ET AL.	
	<b>Examiner</b> Hoa V. Le	<b>Art Unit</b> 1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 and 23 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

This is in response to Papers filed on 13 June 2006 and Interview on 23 June 2006.

I. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 103(a) as Being unpatentable over Uenishi et al (6,489,080) considered in view of Ishihara et al (2004/0033434).

Uenishi et al disclose and teach a positive resist composition comprising a resin being read the general structure of formula (1) of c(25 and 36), a resin being read the general structure formula (2) of c(1-10, 14-17, 21-23, 25-37) on columns 37-44, up to 20 wt% of a compound of generating sulfonic acid up on irradiation with active rays or radiation (col.19, lines 7-12) represented by compounds I(1-14), II(1-5) and III(1-8) on columns 11-18, PAG3(5, 9, 14, 20-27), PGA4(5-11, 13, 15, 17-22, 28, 31-34) on columns 24-31, a nitrogen containing base on column 65, line 21 to column 66, line 37, fluorine/silicon surfactants on column 67, lines 26-35. One or more other types of photo-acid generators are taught and suggested to be used with the sulfonic acid generator in a ratio of 100/0 to 40/60 sulfonic acid generator to other type of acid generator on column 18, line 58 to column 19, line 8. The language "a group that is not decomposed by the action of an acid" or the

like is a functional property of a material and considered inherent. For a patentability of a functional property of a material, it is allowed by law to request and require applicants to provide a convincing evidence to the contrary since arguments alone are not a factual evidence in accordance with the authority stated in *In re Schreiber*, 44 USPQ2d 1429.

Uenishi et al do not specify other carboxylic acid generations upon irradiation with active rays or radiation. Ishihara et al at paragraphs 0054 and 0072 are cited to show the known use of the claimed compound for providing a carboxylic acid generating compound in order to reduce a solubility of a resin in formulation a positive resist composition on paragraph 0075.

Since the above references are all related to positive resist compositions, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include an additional compound capable of generating a carboxylic acid upon irradiation with active rays or radiation in Uenishi et al positive resist compositions for a reasonable expectation of further reducing a solubility of the resin when the positive resist composition is exposed to the irradiation as disclosed, taught, suggest and obtained in Ishihara et al.

Applicant's arguments filed 13 June 2006 have been fully considered but they are not persuasive.

Applicants recognize that Ishihara et al as set forth on the record but urge that Ishihara et al do not disclose, teach or suggest other embodiments. However, applicants fail to recognize that "other embodiments" are already disclosed, taught and suggest the applied primary reference with respect to Uenishi et al. Applicants also fail to recognize that Ishihara et al is applied as a secondary reference.

II. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 102(a) as being anticipated by, , in the alternative, under 35 U.S.C. 103(a) as obvious over Ishihara et al (2004/0033434).

Ishihara et al disclose and teach a positive resist composition comprising a resin being read on the resins of the A1 with resins of the formula [11] with  $R^{(12,13)}$  and  $^{14)}$  being hydrogen...,  $R^{(16)}$  being hydrogen...,  $R^{(17)}$  being an alkyl,  $R^{(18)}$  being aralkyl...,  $R^{(19)}$  being a hydrogen...and with r, t and e being natural numbers, a resin being read on the resins of the A2 with resins of the formula [11] with  $R^{(11,12)}$  and  $^{14)}$  being hydrogen...,  $R^{(16)}$  being hydrogen...,  $R^{(17)}$  being an alkyl,  $R^{(18)}$  being an alkyl...,  $R^{(19)}$  being a hydrogen...and with r, t and e being natural numbers on paragraphs 0078 to 0082, 0085 and 0087-0088, formula [12] with  $R^{(12,13,14,16,17, 18 \text{ and } 19)}$

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<sup>19)</sup> being the same as those in formula [11] and with  $r'$ ,  $t'$  and  $e'$  being natural numbers on paragraphs 0091-0093, 0.05 to 5 wt% of a compound of generating sulfonic acid up on irradiation with active rays or radiation on paragraphs 0065-0070 and 0072, 0087-0088, a nitrogen containing base on paragraph 0114, fluorine/silicon surfactants on paragraph 0117 and from 1-19 wt% of compound capable of generating a carboxylic acid upon irradiation with active rays or radiation on paragraphs 0054 and 0072. Each and all functional embodiments in the claims, including those in claims 1, 3, 6 and 7 as specifically made the arguments by applicants have been reasonably considered inherent in the absence of a convincing evidence to the contrary in accordance with the authority stated in *In re Schreiber*, 44 USPQ2d 1429. Since Ishihara et al disclose and teach the claimed embodiments, the above claims are found to be anticipated by Ishihara et al. In an alternative, the teachings and suggestions are not in an example, are reasonably found to be rendered prima facie obvious by Ishihara et al.

Applicant's arguments filed 13 June 2006 have been fully considered but they are not persuasive.

Applicants recognize that Ishihara generally disclose and teach the claimed embodiments but urge that they are not in specific details. It is submitted that a reasonable and/or applicable teaching is not had to be in an example as urged.

III. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 103(a) as obvious over Ishihara et al (2004/0033434) considered in view of Uenishi et al (6,489,080)

Ishihara et al disclose, teach and suggest a positive resist composition comprising a resin being read on the resins of the A1 with resins of the formula [11] with  $R^{(12,13 \text{ and } 14)}$  being hydrogen...,  $R^{(16)}$  being hydrogen...,  $R^{(17)}$  being an alkyl,  $R^{(18)}$  being aralkyl...,  $R^{(19)}$  being a hydrogen...and with r, t and e being natural numbers, a resin being read on the resins of the A2 with resins of the formula [11] with  $R^{(11,12 \text{ and } 14)}$  being hydrogen...,  $R^{(16)}$  being hydrogen...,  $R^{(17)}$  being an alkyl,  $R^{(18)}$  being an alkyl...,  $R^{(19)}$  being a hydrogen...and with r, t and e being natural numbers on paragraphs 0078 to 0082, 0085 and 0087-0088, formula [12] with  $R^{(12,13,14,16,17, 18 \text{ and } 19)}$  being the same as those in formula [11] and with r', t' and e' being natural numbers on paragraphs 0091-0093, 0.05 to 5 wt% of a compound of generating sulfonic acid up on irradiation with active rays or radiation on paragraphs 0065-0070 and 0072, 0087-0088, a nitrogen containing base on paragraph 0114, fluorine/silicon surfactants on paragraph 0117 and from

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1-19 wt% of compound capable of generating a carboxylic acid upon irradiation with active rays or radiation on paragraphs 0054 and 0072. Each and all functional embodiments in the claims, including those in claims 1, 3, 6 and 7 as specifically made the arguments by applicants have been reasonably considered inherent in the absence of a convincing evidence to the contrary in accordance with the authority stated in *In re Schreiber*, 44 USPQ2d 1429.

Ishihara et al disclose, teach and suggest the claimed resins for obtaining high image resolutions on paragraph 0193 but are not in specific details. However, it is known in the art to obtain and use the claimed resins in more details for the same or about the same photoresist high image resolution. Evidence can be seen in Uenishi et al at col.1:60-64 and resins being read the general structure of formula (1) of c(25 and 36), a resin being read the general structure formula (2) of c(1-10, 14-17, 21-23, 25-37) on columns 37-44.

Since the above references are all related to positive photoresist compositions, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use or cite the known resins for a reasonable expectation of obtaining high image resolution as disclosed, taught and suggested in Uenishi et al.



IV. Applicants' Declaration under Rule 131 filed on 13 June 2006 has been considered on 23 June 2006 (Interview Summary on the record) and today 18 July 2006.

1. There is on the record that applicants could not be able to show an unusual or unexpected result for a "positive working resist composition", per se, as claimed. Instead, applicants rely on the properties of the composition after being coated, exposed and developed with their properties in Table D with sensitivity of 7, resolution of 0.09, pattern shape of rectangular and line edge of 5.3 for the patentability of the claims. An allowed claim or a patent would have no value, if someone later show that (i) the embodiments as broadly claimed do not provide sensitivity of 7, such as 7.005 or more, resolution of 0.09, such as 0.905 or more, pattern shape of rectangular or line edge of 5.3, such as 5.305 or (ii) the combined teachings and suggestions from each of the applied sets of the references on the record as set forth above provide sensitivity of 7 or less, resolution of 0.09 or less, pattern shape of rectangular and line edge of 5.3 or less.

2. Except for the showings of the uses of 5.5 and 19.5 wt% of sulfonic acid generator, all other embodiments have little to no value because they are not commensurate in scope with the claims.

3. The showings are improper because the comparative image using non-applied resin "Resin I" from none of the above applied sets of the references.

For one or more of the above reasons, the showings are improper and are not commensurate in scope with the claims as broadly disclosed.

V. There has been on the record that Urano et al (5,976,759 and 6,656,660) and Sasaki et al (6,727,040) have about the same teachings as those applied above. The are cumulative but may be later applied when a claim is amended. English language machine translations of JP 2002-131898 and JP 2002-341538 are appeared to have about the same teachings and suggestions as those applied above.

VI. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa V. Le whose telephone number is 571-272-1332. The examiner can normally be reached from 6:30 AM to 4:30 PM on Monday though Thursday and about the same time of most Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526.

Applicants may file a paper by (1) fax with a central facsimile receiving number 571-273-8300. Information regarding the status of an application may be

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obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoa V. Le  
Primary Examiner  
Art Unit 1752

HVL  
19 April 2006.

HOA VAN LE  
PRIMARY EXAMINER  
